

## PATENT APPLICATION Docket No. 13316/3277

(Formerly 2777/3277)

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of PURI, Atul et al.

Application No.: 10/811,982

Filed: March 30, 2004

For RATE AND QUALITY CONTROLLER

FOR H.264/AVC VIDEO CODER AND SEQUENCE ANALYZER THEREFOR

Group Art Unit: 2631

Examiner: To Be

Assigned

Customer No.: 23838

## SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

MAIL STOP AMENDMENTS Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

Pursuant to 37 CFR § 1.56, the attention of the Patent and Trademark Office is hereby directed to the reference(s) listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the reference(s) be made of record therein and appear among the "References Cited" on any patent to issue therefrom. The filing of this Information Disclosure Statement and the enclosed PTO Form No. PTO/SB/08, shall not be construed as an admission that the information cited is prior art, or is considered to be material to patentability as defined in 37 C.F.R. § 1.56(b). It is believed that no fees other than those indicated below are due, but authorization is hereby given to charge any additional fees due, or to credit any overpayment, to deposit account 11-0600.

This Information Disclosure Statement is being filed (a) within three months of the filing date of a national application other than a continued prosecution application under 37 C.F.R. §1.53(d), (b) within three months of the date of entry of the national stage as set forth in 37 C.F.R. § 1.491 in an international application, (c) before the mailing date of a first Office Action on the merits in the present application, OR (d)

before the mailing of a first office action after filing of a request for continued examination. No certification or fee is required.

An English-language Abstract of non-English language reference 87 is attached hereto.

In references 136 and 156, the cited chapters of *Digital Multimedia Standards* and *Multimedia Systems, Standards, and Networks* are considered relevant. In order that the Examiner may note all chapters of these books, copies of the tables of contents are also enclosed. If the Examiner desires copies of any of the other chapters of these books, it is requested that he/she contact the undersigned.

In accordance with U.S. practice, copies of the U.S. references are not included. Copies of the following references are attached:

87-100	118	133	139	145	155
105	120	134	140	147	156.
108	125-127	136	142	148	
115	130	137	143	150	

Respectfully submitted,

**KENYON & KENYON** 

Date: July 5, 2005

Registration No. 39,702

Kenyon & Kenyon 1500 K Street, N.W. Washington, D.C. 20005 Telephone: (202) 220-4200

Facsimile: (202) 220-4201 Email: rhails@kenyon.com

PTO/SB/08a (08-03)

Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE eduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO Complete if Known Application Number 10/811,982 INFORMATION DISCLOSURE Filing Date 03/30/2004 STATEMENT BY APPLICANT First Named Inventor PURI, Atul Art Unit 2631 (Use as many sheets as necessary) Examiner Name to be assigned Sheet of 10 13316/3277 Attorney Docket Number

JUL 0 8 2005

U.S. PATENT DOCUMENTS						
Examiner Initials *	Cite No.1	Document Number  Number - Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Releva Passages or Relevant Figures Appear	
	1	US- 2,905,756	09/22/1959	Graham		
	2	US- 4,245,248	01/13/1981	Netravali et al.		
	3	US- 4,394,680	07/19/1983	Watanabe		
	4	US- 4,717,956	01/05/1988	Moorhead et al.		
	5	US- 4,920,414	04/24/1990	Remus et al.		
	6	US- 4,958,226	09/18/1990	Haskell et al.		
	7	US- 4,999,705	03/12/1991	Puri		
	8	US- 5,001,559	03/1991	Gonzales et al.		
	9	US- 5,086,346	02/04/1992	Fujisawa		
	10	US- 5,116,287	05/26/1992	Hironaka et al.		
	11	US- 5,117,283	05/26/1992	Kroos et al.		
	12	US- 5,134,476	07/28/1992	Aravind et al.		
·	13	US- 5,136,659	08/04/1992	Kaneko et al.		
	14	US- 5,170,264	12/08/1992	Saito et al.		
	15	US- 5,189,526	02/23/1993	Sasson		
	16	US- 5,194,941	03/16/1993	Grimaldi et al.	****	
	17	US- 5,196,933	03/1993	Henot		
	18	US- 5,214,507	05/25/1993	Aravind et al.		
	18	US- 5,214,721	05/25/1993	Fukuhara et al.		
	20	US- 5,227,878	07/13/1993	Puri et al.		
	21	US- 5,247,590	09/21/1993	Fukuhara et al.		
	22	US- 5,253,055	10/12/1993	Civanlar et al.		
	23	US- 5,253,056	10/12/1993	Puri et al.		
	24	US- 5,270,813	12/14/1993	Puri et al.		
	25	US- 5,278,646	06/11/1994	Civanlar		
	26	US- 5,345,317	09/06/1994	Katsuno et al.		
	27	US- 5,408,328	04/18/1995	Boliek et al.		
	28	US- 5,414,469	03/09/1995	Gonzales et al.		
	29	US- 5,436,985	07/25/1995	Li		
	30	US- 5,454,051	09/26/1995	Smith		
	31	US- 5,465,119	11/07/1995	Demos	<u></u>	
	32	US- 5,467,136	11/14/1995	Odaka et al.		

Examiner Signature	Date Considered	

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. Applicant's unique citation designation number (optional). See Kinds Codes of USPTO Patent Documents at <a href="https://www.uspto.gov">www.uspto.gov</a> or MPEP 901.04. Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. Skind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Approved for use through 07/31/2006, OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449B/PTO		Complete if Known
INFORMATION DISCLOSURE	Application Number	10/811,982
INFORMATION DISCLOSURE	Filing Date	03/30/2004
STATEMENT BY APPLICANT	First Named Inventor	PURI, Atul
	Art Unit	2631
(Use as many sheets as necessary)	Examiner Name	to be assigned
Sheet 2 of 10	Attorney Docket Number	13316/3277

			U.S. PATENT D		
Examiner Cite No.1		Document Number  Number - Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevan Passages or Relevant Figures Appear
	33	US- 5,473,376	12/05/1995	Auyeung	
	34	US- 5,488,418	01/30/1996	Mishima et al.	
	35	US- 5,493,513	02/20/1996	Keith et al.	
	36	US- 5,500,678	03/19/1996	Puri	
	37	US- 5,524,024	06/04/1996	Lin	
	38	US- 5,532,747	07/02/1996	Yoon et al.	
	39	US- 5,539,468	07/23/1996	Suzuki et al.	
	40	US- 5,561,477	10/01/1996	Polit	
	41	US- 5,566,002	10/15/1996	Shikakura	
	42	US- 5,592,569	01/07/1997	Li	
	43	US- 5,600,375	4/1997	Wickstrom	
	44	US- 5,619,591	04/08/1997	Tsang et al.	
	45	US- 5,659,490	08/19/1997	Imamura	
	46	US- 5,633,684	05/27/1997	Teranishi et al.	
	47	US- 5,699,117	12/16/1997	Uramoto et al.	
	48	US- 5,737,022	04/07/1998	Yamaguchi et al.	
•	49	US- 5,748,789	05/05/1998	Lee et al.	
	50	US- 5,757,969	05/26/1998	Kim	
	51	US- 5,757,971	05/26/1998	Kim	
	52	US- 5,764,374	06/09/1998	Seroussi et al.	
	53	US- 5,764,805	06/09/1998	Martuci et al.	
	54	US- 5,778,097	07/07/1998	Nickerson	
	55	US- 5,781,665	07/19/1998	Cullen et al.	
	56	US- 5,786,855	07/28/1998	Chen et al.	
	57	US- 5,790,695	08/16/1998	Suwa	
	58	US- 5,812,197	09/22/1998	Chan et al.	
	59	US- 5,818,532	10/06/1998	Malladi et al.	
	60	US- 5,832,115	11/16/1998	Rosenberg	

Examiner Signature	Date Considered	
J. S. Land	 Considered	l

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at <a href="www.uspto.gov">www.uspto.gov</a> or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. § Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. § Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substit	Substitute for form 1449C/PTO		Complete if Known		
INIE		W DIE	CLOCUDE	Application Number	10/811,982
	INFORMATION DISCLOSURE			Filing Date	03/30/2004
SIA	STATEMENT BY APPLICANT		First Named Inventor	PURI, Atul	
				Art Unit	2631
	(Use as man	y sheets as	necessary)	Examiner Name	to be assigned
Sheet	3	of	10	Attorney Docket Number	13316/3277

			U.S. PATENT D	OCUMENTS	
Examiner Cite		Document Number	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevan
Initials *	No.1	Number - Kind Code <sup>2</sup> (if known)	MM-DD-YYYY		Passages or Relevant Figures Appear
	61	US- 5,835,149	11/10/1998	Astle	
	62	US- 5,850,294	12/18/1998	Aposolopoulos et al.	
	63	US- 5,852,473	12/22/1998	Horne et al.	
	64	US- 5,852,682	12/22/1998	Kim	
	65	US- 5,859,921	01/12/1999	Suzuki	
	66	US- 5,881,180	03/09/1999	Chang et al.	
	67	US- 5,883,981	03/16/1999	Li et al.	
	68	US- 5,912,991	06/15/1999	Jeon et al.	
	69	US- 5,963,257	10/05/1999	Katata et al.	
	70	US- 5,966,468	10/12/1999	Fujimoto	
	71	US- 5,974,172	10/26/1999	Chen	
	72	US- 5,974,184	10/26/1999	Eifrig et al.	
	73	US- 5,978,509	11/02/1999	Nachtergaele et al.	
	74	US- 5,978,510	11/02/1999	Chung et al.	
	75	US- 5,999,189	12/07/1999	Kajiya et al.	
	76	US- 5,999,219	12/07/1999	Boon	
	77	US- 6,005,980	12/21/1999	Eifrig et al.	
	78	US- 6,026,183	02/15/2000	Talluri et al.	
	79	US- 6,055,623	12/21/1999	Takahashi et al.	
	80	US- 6,057,884	05/02/2000	Chen et al.	
	81	US- 6,097,842	08/01/2000	Suzuki et al.	
	82	US- 6,141,442	10/31/2000	Chen	
	83	US- 6,148,026	11/14/2000	Puri et al.	
	84	US- 6,208,693	03/27/2001	Chen et al.	
	85	US- 6,233,356	05/15/2001	Haskell et al.	
	86	US- 6,459,732	10/01/2002	Chen et al.	

Examiner Signature	I -	Date Considered		
-----------------------	-----	--------------------	--	--

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at <a href="https://www.uspto.gov">www.uspto.gov</a> or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449D/PTO			Complete if Known		
INICODRA	TION DI	CL OCUDE	Application Number	10/811,982	
	-	SCLOSURE	Filing Date	03/30/2004	
STATEME	NT BY A	PPLICANT	First Named Inventor	PURI, Atul	
			Art Unit	2631	
(Use as	many sheets a	s necessary)	Examiner Name	to be assigned	
Sheet 4	of	10	Attorney Docket Number	13316/3277	

			FOREIGN	PATENT DOCUMENTS		
Examiner Initials*	Cite No.1	Foreign Patent Document  Country Code <sup>3</sup> - Number <sup>4</sup> - Kind Code <sup>5</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
	87	EP 0 283 715 A2	09/28/1988	ANT Nachrichtentechnik GmbH		Abs.
	88	EP 0 400 756 A2	12/05/1990	N.V. Philips' Gloeilampenfabrieken Groenewoudseweg		
	89	EP 0 422 404 A2	04/17/1991	International Business Machines Corporation		
	90	EP 0 514 663 A2	11/25/1992	International Business Machines Corporation		
	91	EP 0 517 256 A2	12/09/1992	Sony Corporation		1
	92	EP 0 534 350	03/31/1993	Matsushita Electric Industrial Co., Ltd (JP)	***	
	93	EP 0 540 961 A2	05/12/1993	International Business Machines Corporation		
	94	EP 0 566 219 A2	10/20/1993	Canon Kabushiki Kaisha		1
	95	EP 0 582 819 A2	02/16/1994	Sony Corporation		
	96	WO 94/27252 A	11/24/1994	Competitive Technologies, Inc.	Aller	
	97	EP 0 746 159 A2	12/12/1996	Matsushita Electric Industrial Co., Ltd.		
	98	EP 0 753 970 A2	01/15/1997	Sharp Kabushiki Kaisha		1
	99	CA 2,168,641	03/28/2000	Kabushiki Kaisha Toshiba, JP		1

Examiner	Date	
Signature	Considered	

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at <a href="www.uspto.gov">www.uspto.gov</a> or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Trainstation is a autorieu.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

PTO/SB/08e(08-03)
Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449E/PTO		Complete if Known
INCORMATION DISCLOSURE	Application Number	10/811,982
INFORMATION DISCLOSURE	Filing Date	03/30/2004
STATEMENT BY APPLICANT	First Named Inventor	PURI, Atul
	Art Unit	2631
(Use as many sheets as necessary)	Examiner Name	to be assigned
Sheet 5 of 10	Attorney Docket Number	13316/3277

		NON PATENT LITERATURE DOCUMENTS
Examiner Initials *	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	100	CHEN, T., MPEG4 Video Verification Model VM 5.0, pages 2-192
	101	FUKINUKI, T.; "Measurement of Movement and Velocity of Moving Objects with Picture Signals"; IE78-67; pages 35-41; Central Research Laboratory; Hitachi, Ltd.; Kokubunji, Tokyo, Japan, 185; and English translation
	102	KOGA, T. et al.; "Motion-Compensated Interframe Coding for Video Conferencing"; IE81-54; pages 85-90, C&C Systems Research Laboratories; Nippon Electric Co., Ltd; and English translation
	103	NONOMIYA, Y.; "Motion Correction for Interframe Coding Systems," IE78-6; pages 1-10; General Technology Research Institute; Nippon Broadcasting Association; and English translation
104 105 106		Web site material, "MPEG-4: A Flexible Coding Standard for the Emerging Mobile Multimedia Applications,"  http://www.tnt.uni-hannover.de/project/eu/momusys/docs/Paper/IST/pimrc/pimrc.html
		COHEN et al., "Adaptative Differential Coding of Picture Signals Based on Local Contour Prediction," Communications and Knowledge, Partners in Progress, November 29, 30 - December 1, 1976, Dallas, Texas
		PLOYSONGSANG, A. et al., "DCT/DPCM Processing of NTSC Composite Video Signal," IEEE Transactions On Communications, vol. COM-30, no. 3, pp. 541-549, XP002062314, ISSN: 0090-6778, 1 March 1982 (1982-03-01)
	107	CHAM et al., "DC Coefficient Restoration in Transform Image Coding," IEE Proceedings, Vol. 131, Pt. F, No. 7, pages 709 - 713, December 1984
	108	SEE et al., "Efficient Encoding of DC Coefficients in Transform Coding of Images Using JPEG Scheme," Signal Image and Video Processing, Vol. 1, No. Symp. 24, published 11/06/1991, Institute of Electrical and Electronics Engineers, June 11-14, 1991, pages 404-407, Singapore
	109	KIM, J. W. et al., "A Transform Domain Classified Vector Quantizer for Image Coding," IEEE Transactions on Circuit and Systems for Video Technology, pp. 3-14, XP002115624, March 1992 (1992-03)
	110	PURI, A., "Invited address: Video Coding Using the MPEG-1 Compression Standard," AT&T Bell Labs, Holmdel, NJ, 1992 SID Int'l. Symposium Digest of Technical Papers, Society for Information Display, Playa del Rey, CA, May 1992
	111	DE NATALE, F. G. B. et al.: "Adaptive DCT For Image-Data Compression," European Transactions on Telecommunications and Related Technologies, vol. 3, no. 4, pp. 359-366, XP000310681, ISSN: 1120-3862, 1 July 1992 (1992-07-01)

Examiner	Date	
Signature	Considered	

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant's unique citation designation number (optional). Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449F/PTO Complete if Known Application Number 10/811,982 INFORMATION DISCLOSURE Filing Date 03/30/2004 STATEMENT BY APPLICANT First Named Inventor PURI, Atul Art Unit 2631 (Use as many sheets as necessary) Examiner Name to be assigned Sheet Attorney Docket Number 13316/3277

		NON PATENT LITERATURE DOCUMENTS
Examiner Initials *	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	112	KOK, C. W. et al.: "Image Coding Using DCT of Wavelet Coefficients," Proceedings of the IEEE-SP International Symposium Time-Frequency and Time-Scale Analysis (CT. No. 92TH0478-8), pp. 475-478, XP002115625 1992, NY, NY, IEEE, USA ISBN: 0-7803-0805, Victoria, BC, Canada, 4-6 Oct. 1992
	113	TEST MODEL EDITING COMMITTEE, TELECOMMUNICATION STANDARDIZATION SECTOR, STUDY GROUP 15, EXPERTS GROUP FOR ATM VIDEO CODING (RAPPORTEUR'S GROUP ON PART OF Q.2/15), INTERNATIONAL ORGANISATION FOR STANDARDISATION ORGANISATION INTERNATIONALE DE NORMALISATION ISO-IEC/JTC1/SC29/WG11 MPEG93/457, "Test Model 5," Draft, Document AVC-491, Version 1, Coded Representation of Picture and Audio Information, April 1993
	114	PURI, A., "Video Coding Using the MPEG Compression Standard," AT&T Bell Labs, Holmdel, NJ, Visual Communications and Image Processing '93, Haskell <i>et al.</i> Chairs/Editors, Cambridge, MA, pages 1701-1713, Vol. 2094, Part Three, SPIE - The Int'l. Society for Optical Engineering, Bellingham, WA, November 8-11, 1993
	115	INTERNATIONAL ORGANISATION FOR STANDARDISATION ORGANISATION INTERNATIONALE DE NORMALISATION ISO/IEC JTC1/SC29/WG11, N0702 (revised); Incorporating N0702 (revised), incorporating N702 Delta of 24 March and Further Editorial Corrections; "Information Technology — Generic Coding of Moving Pictures and Associated Audio Information: Video, Recommendation H.262"; ISO/IEC 13818-2; May 10, 1994
	116	SCHMIDT et al., "Performance Evaluation of Nonscalable MPEG-2 Video Coding," AT&T Bell Laboratories, Holmdel, New Jersey, Visual Communications and Image Processing '94, Katsaggelos, Aggelos K., Chair/Editor, Chicago, Illinois, Pages 296-310, Vol 2308, Part One, SPIE – The International Society for Optical Engineering, Bellingham, Washington, September 25-29, 1994
	117	INTERNATIONAL ORGANISATION FOR STANDARDISATION; Generic Coding of Moving Picture and Associated Audio Information; Video; ISO/IEC JTC1/SC29/WG11 NXXXX; ISO/IEC 13818-2, November 1994
	118	AIZAWA & HUANG, "Model-Based Image Coding: Advanced Video Coding techniques for Very Low Bit-Rate Applications," <i>Proceedings of the IEEE</i> , February 1995, vol. 83, no. 2, pp. 259-271
	119	AOE SUB GROUP; ORGANISATION INTERNATIONALE DE NORMALISATION; "MPEG-4 Proposal Package Description (PPD) - Revision 2 (Lausanne Revision)"; Source: ISO/IEC JTC1/SC29/WG11 N0937, MPEG 95/ Coding of Moving Pictures and Associated Audio Information; March 1995
	120	HARTMAN et al., The VRML 2.0 Handbook Building Moving Worlds on the Web, pages 45-46, 264-265, Silicon Graphics, Inc. Addison-Wesley Publishing Co., 1996

$\overline{}$	 	
Examiner	Date	
Signature	Considered	

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance

and not considered. Include copy of this form with next communication to applicant.

Applicant's unique citation designation number (optional). Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Sı	ubstitute	for form 144	9G/PTO			Complete if Known	
	NEO		ON DIG	CL OCUDE	Application Number	10/811,982	_
				SCLOSURE	Filing Date	03/30/2004	
S	STAT	EMEN	TBYA	PPLICANT	First Named Inventor	PURI, Atul	
					Art Unit	2631	
		(Use as ma	ny sheets a	s necessary)	Examiner Name	to be assigned	
s	heet	7	of	10	Attorney Docket Number	13316/3277	

		NON PATENT LITERATURE DOCUMENTS
Examiner Initials *	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	121	PURI, Atul, "Status and Direction of the MPEG-4 Standard," AT&T Bell Labs, Holmdel, NJ, Multimedia Communications and Video Coding, Wang et al., Editors, pages 349-356, Plenum Press, New York, 1996
	122	CHIARIGLIONE, Leonard, Florence Press Release, Source: "MPEG Press Release," Int'l Organisation for Standardisation, Coding of Motion Pictures and Audio, ISO/IEC JTC1/SC29/WG11N 1249, pp. 1-3, Firenze (Florence), Exhibit B, March 1996
·	123	PURI et al., "Initial B-Picture Syntax Proposal for MPEG-4 Video," Int'l Organisation for Standardization, Coding of Moving Pictures and Associated Audio, ISO/IEC JTC1/WG11/MPEG 96/ 0776, Florence, March 1996
	124	PURI et al., "SBASIC Video Coding and Its 3D-DCT Extension for MPEG-4 Multimedia," AT&T Bell Labs, Holmdel, NJ, Visual Communications and Image Processing '96, Ansari et al., Chairs/Editors, Orlando, FL, pages 1331-1341, Vol. 2727, Part Three, SPIE - The Int'l. Society for Optical Engineering, Bellingham, WA, March 17-20, 1996
	125	RIJKSE, Karel, Contact Person, Int'l. Telecommunication Union, ITU-T Draft H.263, Telecommunication, Standardization Sector of ITU, Line Transmission of Non-Telephone Signals, "Video Coding for Low Bitrate Communication," Draft ITU-T Recommendation H.263, <a href="http://www.image.cityu.edu.hk/~stwkchan/h263/h263.html">http://www.image.cityu.edu.hk/~stwkchan/h263/h263.html</a> , pp. 1-49, May 2, 1996
	126	AD HOC GROUP ON MPEG-4 VIDEO VM EDITING, "MPEG-4 Video Verification Model Version 2.1, Source: Video Group, International Organization for Standardisation; Coding of Moving Pictures and Associated Audio Information ISO/IEC JTC1/29/WG11 XXXX, pp. 1-69, May 3, 1996
	127	SCHMIDT, R. L., PURI, A. and HASKELL, B. G. (AT&T); INTERNATIONAL ORGANISATION FOR STANDARDIZATION ORGANISATION INTERNATIONALE DE NORMALISATION ISO/IEC JTC1/SC29/WG11, MPEG96/1084; Coding of Moving Pictures and Associated Audio, "Results of Scalability Experiments"; Tampere, Finland, July 1996
	128	TAN, T. K. and SHEN, S. M., "Intra Prediction (T9/T10) and DC/AC Prediction Results"; INTERNATIONAL ORGANISATION FOR STANDARDISATION ORGANISATION INTERNATIONALE DE NORMALISATION ISO/IEC JTC1/SC29/WG11, MPEG 96/0939; Source: Panasonic Singapore Laboratories Pte Ltd (Matsushita); Coding of Moving Pictures and Associated Audio Information; July 1996
	129	SULLIVAN, Gary J., Contact, "Altered Sections of H.263 for Draft Text of H.263+"; ITU - Telecommunications Standardization SectorDocument: ITU-LBC-96-358R1, STUDY GROUP 15, LBC Experts Group, Shepperton, UK, July 15-18, 1996

Examiner Signature	Date Considered	

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant's unique citation designation number (optional). Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449H/PTO Complete if Known Application Number 10/811,982 INFORMATION DISCLOSURE Filing Date 03/30/2004 STATEMENT BY APPLICANT First Named Inventor PURI, Atul Art Unit 2631 (Use as many sheets as necessary) Examiner Name to be assigned Sheet of Attomey Docket Number 13316/3277

		NON PATENT LITERATURE DOCUMENTS
Examiner Initials *	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	130	"The Virtual Reality Modeling Language Specification," Version 2.0, ISO-IEC CD 14772, August 4, 1996
	131	AD HOC GROUP ON MPEG-4 VIDEO VM EDITING, "MPEG-4 VIDEO VERIFICATION MODEL VERSION 3.2," INTERNATIONAL ORGANISATION FOR STANDARDISATION, ISO/IEC JTC1/SC29/WG11, Coding of Moving Pictures and Associated Audio Information, Chicago, September 1996
	132	PURI, A., SCHMIDT, R. L. and HASKELL, B. G. (AT&T); INTERNATIONAL ORGANISATION FOR STANDARDIZATION ORGANISATION INTERNATIONALE DE NORMALISATION ISO/IEC JTC1/SC29/WG11 MPEG96/1320; Coding of Moving Pictures and Associated Audio; "Description and Results of Coding Efficiency Experiment T9 (part 4) in MPEG-4 Video"; Sept. 1996, Chicago
	133	CHEN et al., IEEE International Conference on Image Processing, "An Approach to Region Coding for Content-Based Scalable Video," September 16, 1996, vol. 3, pp. 399-402
	134	EBRAHIMI, T., OSTERMANN, J., O'CONNELL, K., JANG, E.S. and the Ad hoc Group on Video Working Draft Editing; INTERNATIONAL ORGANIZATION FOR STANDARDISATION ORGANISATION INTERNATIONALE DE NORMALISATION ISO/IEC JTC1/SC29/WG11 N1470, MPEG96/ Maceio, "Working Draft 1.0 of ISO/IEC 14496-2," A. Puri (Editor), Coding of Moving Pictures and Audio, Nov. 1996
	135	AD HOC GROUP ON MPEG-4 VIDEO VM EDITING; INTERNATIONAL ORGANISATION FOR STANDARDISATION ORGANISATION INTERNATIONALE DE NORMALISATION ISO/IEC JTC1/SC29/WG11, MPEG 96/XXXX, Coding of Moving Pictures and Associated Audio Information, "MPEG-4 Video Verification Model Version 5.1"; Dec. 1996
	136	HASKELL, Barry G., PURI, Atul and NETRAVALi, Arun N., "Digital Video: An Introduction To MPEG-2," Digital Multimedia Standards; Chapters 7-9, pp. 146-229, 1997
	137	HASKELL, Barry G., PURI, Atul and NETRAVALi, Arun N., "Digital Video: An Introduction To MPEG-2," Digital Multimedia Standards; Chapter 17, "MPEG-4 and the Future," 1997
	138	Web site material, "MPEG-4 Video and Its Potential for Future Multimedia Services," http://wwwam.hhi.de/mpeg-video/papers/ sikora/iscas.htm (1/27/97)
	139	CHEN et al., IEEE Transactions on Circuits and Systems for Video Technology, "Coding of Subregions for Content-Based Scalable Video," vol. 7, No. 1, pp. 256-260, February 1997

Examiner	Date	
Signature	Considered	

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance

and not considered. Include copy of this form with next communication to applicant.

Applicant's unique citation designation number (optional). Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete his form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450, DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute	for form 1449I/PTO				Complete if Known	
INITO		DIC	CL OCUPE	Application Number	10/811,982	
			CLOSURE	Filing Date	03/30/2004	
STAT	EMENT B	ΥA	PPLICANT	First Named Inventor	PURI, Atul	
				Art Unit	2631	
	(Use as many she	ets as	necessary)	Examiner Name	to be assigned	
Sheet	9	of	10	Attorney Docket Number	13316/3277	

	NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.		
	140	TEKALP & VAN BEEK, "CORE EXPERIMENT M2: Triangular Mesh-Based Coding with Object-Based Functionalities," International Organization for Standardisation - University of Rochester, ISO/IEC JTC1/SC29/WG11 MPEG96/1627, pages 1-18, February 1997		
	141	PURI et al., "Improvements in DCT Based Video Coding," AT&T Laboratories, Visual Communications and Image Processing '97, San Jose, California, SPIE - The International Society for Optical Engineering, Bellingham, Washington, February, 1997		
	142	EBRAHIMI, T., HORNE, C., OSTERMANN, J., JANG, E.S., and the Ad hoc Groups on Video & SNHC VM/WD Editing; Source: Video & SNHC Groups; INTERNATIONAL ORGANIZATION FOR STANDARDIZATION ORGANISATION INTERNATIONALE DE NORMALISATION, ISO/IEC JTC1/SC29/ WG11 N1797, MPEG97/, "Working Draft 4.0 of ISO/IEC 14496-2"; A. Puri (Editor); Stockholm, July 1997		
	143	ELEFTHERIADIS et al., editors, "Text for CD 14496-1 Systems," Int'l. Organization for Standardisation, Coding of Moving Pictures and Audio, ISO/IEC JTC1/SC29/WG11, N1901, pp. i-207, November 21, 1997		
	144	PURI et al., "Current and Future Trends in Multimedia Standards," Multimedia Technology for Applications, Sheu et al., Editors, Chapter 1, pages 3-35, IEEE Press Marketing, Piscataway, NJ, 1998		
	145	PURI, A. and ELEFTHERIADIS, A., "MPEG-4: An Object-Based Multimedia Coding Standard Supporting Mobile Applications" invited paper in <i>Mobile Networks and Applications</i> , 3, pp. 5-32, 1998		
	146	Web site material, "The Structure of the MPEG-4 Video Coding Algorithm," http://www.ee.iisc.ernet.in/people/students/gupta/ Mpeg4/Coding/fmpeg4vm.htm (3/1/98)		
	147	INT'L. ORGANIZATION FOR STANDARDISATION, CODING OF MOVING PICTURES AND AUDIO, ISO/IEC JTC1/SC29/ WG11, N2403, "MPEG-4 Standard Completed," 6 pages, October12-16, 1998		
	148	FDIS/BIFS, Technical Paper, Chapter 9, Sections 9.1 through 9.4.2.100.2, 16:37, November 23, 1998		
	149	MPEG-4 Systems, "Coding of Audio-Visual Objects: Systems," ISO/IEC JTC 1/SC 29/WG 11, N2501, ISO/IEC 14496-1:1999(E), December 18, 1998		

Examiner	Date	
Signature	Considered	

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant's unique citation designation number (optional). Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449J/PTO		Complete if Known		
INFORMATION DICCLOCUDE	Application Number	10/811,982		
INFORMATION DISCLOSURE	Filing Date	03/30/2004		
STATEMENT BY APPLICANT	First Named Inventor	PURI, Atul		
	Art Unit	2631		
(Use as many sheets as necessary)	Examiner Name	to be assigned		
Sheet 10 of 10	Attorney Docket Number	13316/3277		

	NON PATENT LITERATURE DOCUMENTS					
Examiner Initials *	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.				
	150	PURI et al., "Scene Description, Composition, and Playback Systems for MPEG-4," SPIE, Visual Communications and Image Processing '99, San Jose, California, pp. 2-13, January 25-27, 1999				
	151	PURI, A. and TEKALP, A. M., "MPEG-4 and MPEG-7 Standards," Electronic Imaging, Course Notes, San Jose, January 1999				
	152	MPEG-4 SYSTEMS GROUP, N2739, "Text for ISO/IEC 14496-1/PDAM1," ISO/IEC JTC1/SC29/WG11, March 1999				
	153	MPEG-4 SYSTEMS GROUP, N2741, "MPEG-4 Systems Version 2 Verification Model 6.0," ISO IEC JTC1/SC29/WG11, March 1999				
	154	Web site material, "Object-Based Coding," <a href="http://www.ece.concordia.ca/ÿsorial/seminar 1/node18.html">http://www.ece.concordia.ca/ÿsorial/seminar 1/node18.html</a> (7/14/99)				
	155	LIFSHITZ, Z., DICAGNO, G., FRANCESCHINI, G. and BATTISTA, S., "MPEG-4 Players Implementation," Multimedia Systems, Standards, and Networks, Puri, A. and Chen, T., Editors, Chapter 16, pp. 461-486, Marcel Dekker, Inc., New York, New York, 2000				
	156	PURI, A. and CHEN, T., editors, <i>Multimedia Systems, Standards, and Networks</i> , Chapters 3-5, 7-9, 12 and 13; Marcel Dekker, Inc., New York, New York, 2000				
	157	INT'L. ORGANISATION FOR STANDARDISATION; CODING OF MOTION PICTURES AND AUDIO, ISO/IEC 14496-2: 1999/Amd. 1:2000(E); ISO/IEC JTC1/SC29/WG11; SC 29 Secretariat: JISC; "Information Technology - Coding of Audio-Visual Objects - Part 2: Visual, Amendment 1: Visual Extensions; Exhibit D; January 31, 2000				

Examiner	Date	1
Signature	Considered	1

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in communic with which is observed and not considered. Include copy of this form with next communication to applicant:

Applicant's unique citation designation number (optional). Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual complete as the amount of time your require to complete this form and/or suppositions for reducing this burden, should be sent to the Chief case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.